

REMARKS

Claims 1-7 and 21-25 are pending in the application. Claims 1 and 21 are independent. No new matter has been added by the amendments. Applicants respectfully request reconsideration of the present application.

Rejection of Dependent Claim 5 Under 35 U.S.C. §112

Claim 5 has been amended, thereby mooting the rejection of claim 5 as failing to comply with the enablement requirement.

First Rejection of Independent Claim 1

Claim 1 stands rejected under 35 U.S.C. 103 as being unpatentable over Sasaki (US 5,649,250) in view of DeWolff (PCT/US91/09252) and Malloy-Desormeaux (US 6,577,821). Applicant respectfully disagrees.

Claim 1, as amended, is patentable over the cited art because the cited art, considered alone or in combination, does not teach or suggest all of the features of claim 1. For example, at the least, the cited art does not teach or suggest:

[a] processor ... configured to automatically generate [an] exposure pattern prior to capturing an image by controlling the shutter device to expose at least a first and second subset of the plurality of pixel elements to light for a duration of time and measuring the level of light reaching the first and second subsets of pixel elements, wherein the exposure pattern comprises a first pixel unit exposure duration and a second pixel unit exposure duration, said first pixel unit exposure duration being associated with the first subset of said plurality of pixel elements, said second pixel unit exposure duration being associated with the second subset of said plurality of pixel elements, said first pixel unit exposure duration being longer than said second pixel unit exposure duration, and said second pixel unit exposure duration being greater than zero seconds.

as is recited in claim 1, as amended (emphasis added).

None of the cited art teach or suggest this feature. Sasaki disclose a camera with multi-mirco lens and an LCD shutter device. The LCD shutter device, like the claimed shutter device, includes individually addressable shutter elements. But, unlike the claimed image capturing device, the camera of Sasaki does not include “an electronic image sensor including a plurality of pixel elements,” let alone “[a] processor ... configured to automatically generate [an] exposure pattern prior to capturing an image by controlling the shutter device to expose at least a first and second subset of the plurality of pixel elements to light for a duration of time and measuring the level of light reaching the first and second subsets of pixel elements.” Sasaki merely discloses a film camera. Thus, it does not disclose an electronic image sensor, let alone a processor that generates an exposure pattern by controlling the shutter device and measuring the level of light reaching a first and second subset of pixel elements.

Like Sasaki, DeWolff also discloses an LCD shutter device. But, also like Sasaki, DeWolff does not teach or suggest a “[a] processor ... configured to automatically generate [an] exposure pattern prior to capturing an image by controlling the shutter device to expose at least a first and second subset of the plurality of pixel elements to light for a duration of time and measuring the level of light reaching the first and second subsets of pixel elements,” as is required by claim 1. DeWolff discloses a system in which a user selects the portion or portions of a negative that are to be “dodged and burned” (i.e., lightened and darkened). The system has a computer that controls the LCD shutter device. Based on the input from the user, the computer “calculates the correct exposure and printing times.” *DeWolff, at page 16, lines 5-7.* Accordingly, the computer (i.e., processor) of DeWolff creates an exposure pattern, but does so in a different way than is claimed. As claimed, the processor creates the exposure pattern by exposing the claimed pixel elements to light and then measuring the amount of light reaching the pixel elements. DeWolff does not teach or suggest these steps. Thus, DeWolff does not make up for the teachings of Sasaki.

Malloy-Desormeaux does not teach or suggest an exposure pattern, let alone a processor configured to automatically generate an exposure pattern as claimed. Thus, Malloy-Desormeaux does not make up for the deficient teachings of DeWolff and Sasaki.

Accordingly, the rejection of claim 1 based on the combination of Sasaki, DeWolff and Malloy-Desormeaux should be withdrawn.

Second Rejection of Independent Claim 1

Claim 1 stands rejected under 35 U.S.C. 103 as being unpatentable over Takeuchi (US 2005/0140820) in view of DeWolff and Malloy-Desormeaux. Applicant respectfully disagrees.

As explained above, DeWolff does not teach or suggest “[a] processor ... configured to automatically generate [an] exposure pattern prior to capturing an image by controlling the shutter device to expose at least a first and second subset of the plurality of pixel elements to light for a duration of time and measuring the level of light reaching the first and second subsets of pixel elements,” as is required by claim 1.

Takeuchi does not make up for the deficient teachings of DeWolff and Malloy-Desormeaux. Nowhere does Takeuchi teach or suggest “[a] processor ... configured to automatically generate [an] exposure pattern prior to capturing an image by controlling the shutter device to expose at least a first and second subset of the plurality of pixel elements to light for a duration of time and measuring the level of light reaching the first and second subsets of pixel elements.” At most, Takeuchi discloses a using an “exposure meter” to set the “size of the opening pattern of the liquid shutter.” See paragraph 0098. However, Takeuchi does not disclose “automatically generate [an] exposure pattern prior to capturing an image by controlling the shutter device to expose at least a first and second subset of the plurality of pixel elements to light for a duration of time and measuring the level of light reaching the first and second subsets of pixel elements.” Thus, Takeuchi does not make up for the deficient teachings of DeWolff and Malloy-Desormeaux. Accordingly, Applicant respectfully requests that the rejection of claim 1 over Takeuchi in view of DeWolff and Malloy-Desormeaux be withdrawn.

Dependent Claims 2-7

Claims 2-7 depend from claim 1. Therefore, claims 2-7 are patentable over the art of record for at least the same reasons give above with respect to claim 1.

Rejection of claim 21

Claim 21 stands rejected under 35 U.S.C. 103 as being unpatentable over Bryant (US 5,030,985) in view of Cornuejols (US 5,193,016). Applicant respectfully disagrees.

Claim 21, as amended, is patentable over the cited art because the cited art, considered alone or in combination, does not teach or suggest all of the features of claim 21. For example, at the least, the cited art does not teach or suggest:

a processor ... being configured such that in response to activation of the shutter button, the processor (1) controls the shutter device so that all of the shutter elements are light transmissive, (2) monitors at least a subset of the plurality of pixel elements to detect whether the intensity of a light signal from the subset exceeds the exposure threshold, and (3) in response to detecting that the intensity of the light signal exceeds the threshold, controls the shutter device so that the shutter elements corresponding to the subset become non-light transmissive,

as is required by claim 21.

Cornuejols does not disclose any thing remotely like the claimed processor. Bryant discloses a system in which pixels are associated with shutter elements. Bryant further discloses that when a pixel has a light intensity that is greater than a predetermined level, the shutter corresponding to the pixel is "darkened." However, "darkening" a shutter element is not the same as making the shutter element "non-light transmissive." Darkening a shutter element merely means that the shutter element lets less light pass through. It does not mean that the shutter element lets no light pass through. Accordingly, neither Bryant nor Cornuejols teach or suggest all of the features of claim 21.

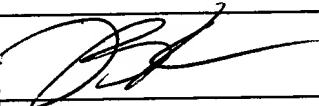
Dependent Claims 22-25

Claims 22-25 depend from claim 21. Therefore, claims 22-25 are patentable over the art of record for at least the same reasons give above with respect to claim 21.

CONCLUSION

All of the stated grounds of objection and rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider all presently outstanding objections and rejections, and that they be withdrawn. Applicants believe that a full and complete reply has been made to the outstanding Office Action and, as such, the present application is in condition for allowance.

If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided.

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